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**PROJECT NO. 52373**

**REVIEW OF WHOLESALE  
ELECTRIC MARKET DESIGN**

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**BEFORE THE PUBLIC UTILITY  
COMMISSION OF TEXAS**

**EXECUTIVE SUMMARY REGARDING THE COMMISSION'S SEPTEMBER 2, 2021  
QUESTIONS**

Rayburn Country Electric Cooperative, Inc. ("Rayburn") supports a more robust and formal demand response ERCOT market in order to improve the reliability of the grid, however, the Commission should also consider all potential cost-effective methods to improve ERCOT's ability to manage the grid in severe weather events, not just demand response, to more effectively balance the need for improved reliability and the adverse impacts of increased rates to the ultimate consumer. Additionally, Rayburn believes that any changes made to the market should not be rushed, but should be well-designed, transparently developed and implemented and based on careful research and analysis.

Rayburn recommends the Commission conduct a demand response potential study. Demand response potential studies identify (1) how many MW of demand response could reasonably be expected with a well-designed program; (2) which demand response programs offer the greatest potential in a particular geographic area; and (3) which are most likely to be cost-effective. This data would assist the Commission in determining how much demand response it could reliably expect the market to produce, and which types of programs to include. Rayburn additionally recommends that Qualified Scheduling Entities ("QSEs") could provide demand response commitments in their Current Operating Plans ("COPs") and that non-residential demand response solutions have far more potential than residential demand response programs for significant MW savings.

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REVIEW OF WHOLESALE  
ELECTRIC MARKET DESIGN

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BEFORE THE PUBLIC UTILITY  
COMMISSION OF TEXAS

**RAYBURN COUNTRY ELECTRIC COOPERATIVE, INC.'S  
COMMENTS ON THE COMMISSION'S SEPTEMBER 2, 2021 QUESTIONS**

Rayburn Country Electric Cooperative, Inc. ("Rayburn") appreciates the opportunity to comment on the Public Utility Commission of Texas' ("Commission") September 2, 2021 Questions for Comment - Project No. 52373, which set forth the following questions:

- 1. Describe existing and potential mechanisms for residential demand response in the ERCOT market?**
  - a. Are consumers being compensated (in cash, credit, rebates, etc.) for their demand response efforts in any existing programs today, and if not, what kind of program would establish the most reliable and responsive residential demand response?**

Rayburn's member cooperatives have programs to encourage demand response ("DR") that include such measures as time-of-use rate structures and offering rebates and/or credits for thermostats or smart home devices.

- b. Do existing market mechanisms (e.g., financial cost of procuring real time energy in periods of scarcity) provide adequate incentives for residential load serving entities to establish demand response programs? If not, what changes should the Commission consider?**

Rayburn notes that ERCOT's energy-only market design is unique compared to other markets with demand response programs. As such, some traditional demand response mechanisms that have worked in differently designed RTOs may not be well-suited for ERCOT's market. Retail DR programs are the largest in the Reliability First ("RF") and Western Electricity Coordinating Council ("WECC") regions of NERC, with approximately 2.5 million and 3 million customers enrolled in 2018, respectively,<sup>1</sup> while other NERC regions have achieved the enrollment

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<sup>1</sup> See 2020 Assessment of Demand Response and Advanced Metering, FERC Staff Report, Figure 5-1 at page 31 (December 2020), [https://cms.ferc.gov/sites/default/files/2020-12/2020%20Assessment%20of%20Demand%20Response%20and%20Advanced%20Metering\\_December%202020.pdf](https://cms.ferc.gov/sites/default/files/2020-12/2020%20Assessment%20of%20Demand%20Response%20and%20Advanced%20Metering_December%202020.pdf).

of at least 1 million customers.<sup>2</sup> By comparison, less than 300,000 customers were enrolled in retail DR programs in the Texas Reliability Entity (“Texas RE”) region in 2018.<sup>3</sup> In addition, the RF and WECC NERC regions lead the way with over 3 million customers enrolled in retail dynamic pricing programs as compared to near zero for the Texas RE region (as of 2018).<sup>4</sup> Demand-side resource participation in RTOs/ISOs varies by wholesale power market with the largest participation in PJM and MISO, with 10,185 and 13,612 MW respectively.<sup>5</sup>

Rayburn recommends the Commission conduct a DR potential study to specifically identify potential cost-effective mechanisms for residential DR in the ERCOT market. DR potential studies have been conducted in other jurisdictions,<sup>6</sup> and are helpful tools to identify (1) how much potential exists for demand response in a jurisdiction (*i.e.*, how many MW of DR could reasonably be expected with a well-designed program); (2) which DR programs offer the greatest potential for DR in a particular geographic area; and (3) which types of DR programs and incentives are likely to be cost-effective. Such a study could offer the Commission critical data to identify the changes to the demand response program in the ERCOT market that will achieve the greatest benefit to reliability at the lowest reasonable cost. A DR potential study would provide detailed data on consumer preferences within ERCOT’s unique energy-only market along with the specific energy consumption patterns of these customers, which include a much higher percentage of electric home heating (versus natural gas) than the average U.S., among other differences.<sup>7</sup>

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<sup>2</sup> *Id.*

<sup>3</sup> **Error! Hyperlink reference not valid.** *Id.*

<sup>4</sup> *Id.* at Figure 5-2 at page 34.

<sup>5</sup> *Id.* at Table 3-3 at page 20.

<sup>6</sup> See, e.g. State of Michigan Demand Response Potential Study, [https://www.michigan.gov/documents/mpsc/State\\_of\\_Michigan\\_-\\_Demand\\_Response\\_Potential\\_Report\\_-\\_Final\\_29sep2017\\_\\_602435\\_7.pdf](https://www.michigan.gov/documents/mpsc/State_of_Michigan_-_Demand_Response_Potential_Report_-_Final_29sep2017__602435_7.pdf); Pennsylvania Phase IV Demand Response Potential Study: <https://www.puc.pa.gov/pdocs/1656475.pdf>; Bonneville Power Administration Demand Response Potential and Barriers Study: <https://www.bpa.gov/EE/Technology/demand-response/pages/dr-potential-and-barriers-studies.aspx>.

<sup>7</sup> According to the U.S. Census Bureau, 61% of homes in Texas use electricity as their primary heating source compared with 39% of homes in the United States. *Texas uses natural gas for electricity generation and home heating*, Energy Information Administration, (March 12, 2021), <https://www.eia.gov/todayinenergy/detail.php?id=47116#:~:text=According%20to%20the%20U.S.%20Census%20Bureau%2C%2061%25%20of,to%20ignite%20and%20to%20fan%20heat%20throughout%20houses>.

If the Commission retains the energy-only market design, it could study the costs and benefits of appending this design with a DR program that clears capacity on a seasonal basis similar to the Emergency Response Service (“ERS”) program. But whether or not it changes the energy-only ERCOT market, the Commission should focus its time and resources to ensure that the ERCOT region generation fleet is continuously operating during critical winter storm events.

While the Commission can identify DR programs with enough potential in the region to warrant inclusion in the market design or market incentives, comprehensive retail customer DR programs are best created by Load Serving Entities (“LSE”) that can draw upon customer-specific experiences. LSEs throughout the ERCOT region are at different stages of development of DR programs. The Commission should allow flexibility for LSEs on the specific design features of DR programs. DR programs should remain voluntary and provide end-use customers reasonable compensation for the service being provided.

- 2. What market design elements are required to ensure reliability of residential demand response programs?**
  - a. What command/control and reporting mechanisms need to be in place to ensure residential demand response is committed for the purpose of a current operating plan (COP)?**
  - b. Typically, how many days in advance can residential demand response commit to being available?**

The Commission should consider implementing a requirement for residential DR commitments to Qualified Scheduling Entity’s (“QSE”) or LSE’s Current Operating Plan (“COP”) reporting requirements. Providing the expected operating conditions for this resource type will aide reliability of the program and potentially enhance interest and expansion. If the Commission adopts an auction-type structure then it may be appropriate to have the QSEs that have cleared this product reflect that in their COPs. QSEs could show ERCOT through the standard reporting mechanism (*i.e.*, COPs) exactly how much DR is available across the next 7-14 days. This detailed

market specific information would be informative, enhancing reliable market operation and would enable ERCOT to commit these resources as needed.

- 3. How should utilities' existing programs, such as those designed pursuant to 16 TAC §25.181, be modified to provide additional reliability benefits?**
- a. What current impediments or obstacles prevent these programs from reaching their full potential?**

Rayburn's members that currently offer these types of programs have found that the programs can be both costly and/or cause displeasure with their consumers. The consumers dislike the idea of an outside party, such as the utility, having access to their thermostats or water heaters. Another obstacle to current programs has been an educational disconnect - consumers lack the information necessary to understand the impact home usage has on the overall market. Even if consumers allow access to their thermostats or water heaters, some of the consumers continue to want full autonomy with their house's electrical usage. These and other barriers to adoption of residential DR programs need to be studied further.

- 4. Outside of the programs contemplated in Question 3, what business models currently exist that provide residential demand response?**
- a. What impediments or obstacles in the current market design or rules prevent these types of business models from increasing demand response and reliability?**

Rayburn supports business models that allow for the development of a more robust market for non-residential DR in order to support reliability in the future. Whatever business models are developed, Rayburn notes that distribution cooperatives and utilities will need visibility into the DR programs their customers are participating in if they are to be able to produce accurate load forecasts. Rayburn reserves the right to comment further on this issue as it develops further in this proceeding.

- 5. What changes should be made to non-residential load-side products, programs, or what programs should be developed to support reliability in the future?**

Rayburn believes there is untapped potential in non-residential DR programs. Commercial and industrial customers have large loads and thus greater potential for load reduction than residential customers. They also may have business operations whose energy consumption can be adjusted more readily based on financial and economic incentives and with less consumer preferences and personal discomfort considerations than residential consumption, if they are paid at a level that compensates them for any business lost due to the adjustment. Rayburn also recommends the Commission further develop and improve the existing ERS program as the primary and particularly impactful resource for addressing critical system reliability issues and couple it with a more formal DR program that would allow less frequent use of ERS resources, which could then be held in reserve for greater emergency conditions.

### **Conclusion<sup>8</sup>**

The Commission should consider all of the various levers available to it, not only DR, to address the market problems that led to the Winter Storm Uri crisis. A DR potential study would identify the necessary changes to the DR program in the ERCOT market that would achieve the greatest benefit to reliability at the lowest reasonable cost.

Respectfully submitted,



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<sup>8</sup> Although Rayburn has provided preliminary comments on the questions posed, Rayburn reserves the right to comment at a future date.